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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/738,089	12/15/2000	Paul C. Rentmeester	D-2685/WOD	9645

7590

11/25/2002

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EXAMINER

KOSOWSKI, ALEXANDER J

ART UNIT

PAPER NUMBER

2125

DATE MAILED: 11/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/738,089

Applicant(s)

RENTMEESTER ET AL.

Examiner

Alexander J Kosowski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 12-17 and 22-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-40 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☒ Other: *Restriction*.

DETAILED ACTION

Election/Restrictions

- 1) Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-11 and 18-21, drawn to a flow control device, classified in class 700, subclass 282.
 - II. Claims 12-14, drawn to a method of valve operation, classified in class 700, subclass 276.
 - III. Claims 15-17, drawn to a method of controlling a generic device, classified in class 700, subclass 1.
 - IV. Claims 22-23, drawn to a method of configuring a generic device, classified in class 702, subclass 105.
 - V. Claims 24-40, drawn to a generic control device, classified in class 700, subclass 9.
- 2) Inventions I and II, I and III and I and IV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus can be used to practice a plurality of different processes.
- 3) Inventions I and V are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention V has separate utility such as controlling any generic mechanical device. See MPEP § 806.05(d).

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- 4) Inventions II, III and IV are also distinct from I and V and from each other since they would each require separate searches.
- 5) Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
- 6) During a telephone conversation with William O'Driscoll on 11/12/02 a provisional election was made with traverse to prosecute the invention of group I, claims 1-11 and 18-21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-17 and 22-40 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
- 7) Therefore, claims 1-11 and 18-21 are presented for examination.

Claim Rejections - 35 USC § 103

- 8) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 9) Claims 1-3, 6-7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stege (U.S. Pat 6,044,857), further in view of Deshautreaux, Jr (U.S. Pat 3,205,323).

Referring to claim 1, Stege discloses a flow control device comprising a valve (Abstract, line 1), an actuator portion operably connected to and positioning the valve (col. 4 lines 9-13), a controller operably connected to the actuator and providing control signals thereto (Abstract, lines 6-10), an external communications system operably connected to the controller and

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providing control signal input thereto (col. 2 lines 19-27), and a sensor connected to the controller that provides a first signal in response to a user's action (col. 7 lines 16-29, whereby a user can override the valve control circuitry using a jumper which is a type of switch). However, Stege does not explicitly teach that the sensor connected to the controller is a magnetically actuated sensor responds to the movement or presence of a magnetic field.

Deshautreaux teaches the use of magnetic reed proximity switches to simulate switch contacts using a magnetic field.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize a magnetically actuated sensor instead of a switch in the invention taught by Stege since a magnetic switch requires no physical contact with the material object in order to be activated which helps to avoid failure of the switch due to corrosion and abrasion (Deshautreaux, col. 1 lines 7-34) and since the use of magnetically actuated sensors instead of switches has been well known in the art for several decades as evidenced by the early patent date of Deshautreaux.

Referring to claim 2, Stege discloses that the controller positions the actuator in response to receiving a first signal from the sensor (col. 7 lines 26-29, whereby setting the jumper sends a first signal to the controller which tells the actuator to open or close the valve).

Referring to claim 3, Stege discloses that the controller transmits a second signal on the communication system in response to receiving the first signal (col. 7 lines 26-29).

Referring to claim 6, Stege discloses a flow control device comprising a valve (Abstract, line 1), controller circuitry operatively connected to the valve and controlling a position of the valve in response to first condition (Abstract, lines 6-10 and col. 7 lines 16-29, whereby a user produces a first condition), and a sensor operatively connected to the control circuitry for

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detecting a user's action and initiating a control mode sequence in the control circuitry (col. 7 lines 16-29, whereby opening or closing the valve in response to the switch setting is considered initiating a control mode sequence). However, Stege does not explicitly teach that the sensor connected to the controller is a magnetically actuated sensor that detects a magnetic field.

Deshautreaux teaches the use of magnetic reed proximity switches to simulate switch contacts using a magnetic field.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize a magnetically actuated sensor instead of a switch in the invention taught by Stege since a magnetic switch requires no physical contact with the material object in order to be activated which helps to avoid failure of the switch due to corrosion and abrasion (Deshautreaux, col. 1 lines 7-34) and since the use of magnetically actuated sensors instead of switches has been well known in the art for several decades as evidenced by the early patent date of Deshautreaux.

Referring to claim 7, Stege discloses that the controller positions the valve in response to the control mode sequence being initiated (col. 7 lines 26-29, whereby setting the jumper sends a signal to the controller which tells the actuator to open or close the valve).

Referring to claim 18, Stege discloses a flow control device comprising a housing (Figure 1), an actuator located within the housing (col. 4 lines 9-13), a controller operably connected to and controlling the actuator in response to a first condition (Abstract, lines 6-10 and col. 7 lines 16-29, whereby a user produces a first condition), and a sensor operably connected to the controller which provides a signal to the controller in response to sensing a user's action wherein the controller initiates a predetermined control sequence in response to the sensed user action (col. 7 lines 16-29, whereby opening or closing the valve in response to the switch setting is

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considered initiating a control mode sequence). However, Stege does not explicitly teach that the sensor connected to the controller is a magnetically actuated sensor that detects a magnetic field.

Deshautreaux teaches the use of magnetic reed proximity switches to simulate switch contacts using a magnetic field.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize a magnetically actuated sensor instead of a switch in the invention taught by Stege since a magnetic switch requires no physical contact with the material object in order to be activated which helps to avoid failure of the switch due to corrosion and abrasion (Deshautreaux, col. 1 lines 7-34) and since the use of magnetically actuated sensors instead of switches has been well known in the art for several decades as evidenced by the early patent date of Deshautreaux.

10) Claims 4 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stege and Deshautreaux as shown above, further in view of Sjolholm et al (U.S. Pat 4,217,647).

Referring to claim 4, Stege and Deshautreaux disclose the device shown above. However, neither explicitly teaches that the controller does not transmit the second signal if the controller determines that the controller has an identity.

Sjolholm teaches a system of networked valve controllers whereby each controller has it's own identity (col. 3 lines 18-36).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to not transmit a second signal in the device taught above if the controller determines that the controller has an identity since individual controllers can be singled out of a group of

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controllers (Sjoholm, col. 3 lines 18-36) and since the controller can inherently transmit signals for a plurality of reasons, including if an identity is detected or not.

Referring to claim 8, Stege and Deshautreaux teach the device shown above. However, neither explicitly teaches that the device further includes communications circuitry in the control circuitry wherein the communications circuitry is operatively connected to a communications bus for two-way communications.

Sjoholm teaches a system of networked valve controllers whereby a communication bus exists for two-way communications (col. 1 lines 13-21).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize a two-way communication bus in the device taught above since this would make the device more flexible in that objects can be readily connected to the common cable (Sjoholm, col. 4 lines 20-24).

Referring to claim 9, Stege and Deshautreaux teach that the control circuitry sends a signal out in response to the initiation of the control mode sequence (col. 7 lines 26-29). However, neither explicitly teach that the signal is sent to communications circuitry.

Sjoholm teaches a system of networked valve controllers whereby a communication bus exists for two-way communications (col. 1 lines 13-21).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to send the first signal to communications circuitry in the device taught above since this would allow communications among all the control means via the bus (Sjoholm, col. 1 lines 13-21).

Referring to claim 10, see rejection of claim 4 above.

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Referring to claim 11, Stege discloses that the first condition is temperature (col. 2 lines 19-27).

11) Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stege and Deshautreaux as shown above, further in view of Mino (U.S. Pat 5,316,263).

Referring to claim 19, see rejection of claim 5 below.

Referring to claim 20, Deshautreaux discloses that the magnetically actuated sensor includes a magnetically moveable object (col. 4 lines 42-55).

Referring to claim 21, see rejection of claims 8 and 9 above.

12) Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stege and Deshautreaux as shown above, further in view of Sjolholm, further in view of Mino.

Referring to claim 5, Stege and Deshautreaux and Sjolholm disclose the device shown above, however, neither explicitly teaches that the magnetically actuated sensor is a Hall effect sensor.

Mino teaches a flow control devices utilizing an expansion valve which uses a Hall effect sensor as a magnetically actuated sensor (col. 3 lines 54-63).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize a Hall effect sensor as a magnetically actuated sensor since a change in a magnetic field generates a hall electromotive force in a hall element which can be used as a sensor signal (Mino, col. 3 lines 54-63) and since the use of Hall elements as magnetic sensors is well known in the art.

Conclusion

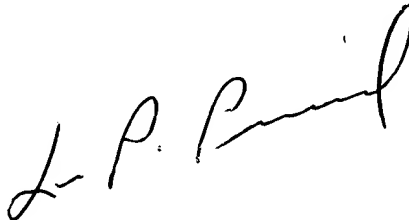
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13) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander J Kosowski whose telephone number is 703-305-3958. The examiner can normally be reached on Monday through Friday, alternating Fridays, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 703-308-0538. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7239 for After Final communications. In addition, the examiner's RightFAX number is 703-746-8370.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Alexander J. Kosowski
Patent Examiner
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A handwritten signature in black ink, appearing to read "L. P. Picard", written in a cursive style.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100